

a positioning means for positioning said closing means, said substrate being movable with respect to the spray valve;

a supplying means connected by a supply line to the spray valve for supplying the spray valve with the coating medium under pressure, said closing means being continuously adjustable by said positioning means within a desired adjustment field; and

a regulator means assigned to said positioning means, said regulator means having at least one target value input for setting an instantaneously required outflow rate of the coating medium from the spray valve, said regulator means for setting at least one input value for the mass flow rate of the coating medium through said supply section, said regulator means for creating an adjustment signal which moves said positioning means relative to a deviation between the target value input and the input value for the mass flow rate, the spray valve having a spraying head, said nozzle opening formed on a conical nozzle, said conical nozzle emerging from a storage chamber connected to said supply line, said closing means being a needle valve cooperative with said nozzle opening, said positioning means for axially moving said needle valve in said nozzle opening, said regulator means for controlling said positioning means, said positioning means being a linear motor with a current supply, said regulator means for regulating said current supply to said linear motor, the target value input being adjustable by said regulator means relative to a desired coating thickness profile over a length of said substrate movable with respect to the spray valve.

34. (new) The apparatus of Claim 33, further comprising:

a path measurement means for detecting a position of said substrate relative to the spray nozzle, said path measurement means having an output corresponding to said target value input, said regulator means for forming a target value for the outflow rate from an

instantaneous value of the position of said substrate and the desired coating thickness at the position of said substrate.

35. (new) The apparatus of Claim 34, further comprising:

a conveyor means for transporting said substrate by the spray valve, said path measurement means assigned to said conveyor means.

36. (new) The apparatus of Claim 35, said path measurement means being actuatable by a movement of said substrate by said conveyor means.

37. (new) The apparatus of Claim 33, said regulator means having a first target value input relative to a desired temperature of said coating medium and a second target value input for a temperature of the coating medium in said supply section, said apparatus further comprising:

a heating means for controlling a temperature of the coating medium relative to a deviation between said first target value input and said second target value input.

38. (new) The apparatus of Claim 33, further comprising:

a pressurizing means for impinging the spray valve with pressurized air so as to spray the coating medium through the spray valve, said pressurizing means having a pressure line extending to the spray valve; and

a valve means connected to said pressure line for controlling a flow of the pressurized air, said regulator means for controlling said valve means.

39. (new) The apparatus of Claim 33, further comprising:

a mass flow rate measurement means connected to said spray valve for measuring a mass flow rate of the coating medium through said nozzle opening of said spray valve, said mass flow rate measurement means having a venturi diaphragm therein.

40. (new) The apparatus of Claims 39, said mass flow rate measurement means having a temperature sensor means connected thereto, said temperature sensor means for measuring a temperature of the coating medium passing through said venturi diaphragm of said mass flow rate measurement means.

41. (new) The apparatus of Claim 33, said linear motor comprising a lifting magnet having a coil, said coil having a current supply connected thereto, said regulator means for controlling the current supply to said coil.

42. (new) The apparatus of Claim 33, said regulator means comprising a programmable microprocessor.

43. (new) The apparatus of Claim 33, further comprising:

a display means electrically connected to said regulator means, said control means for producing a humanly perceivable display of the deviations in the form of an actual outflow rate of the coating medium, said regulator means being an integrated regulation device contained within the spray valve.

44. (new) The apparatus of Claim 33, said at least one spray valve comprising a plurality of spray valves arranged over a width of said substrate, said regulator means comprising a plurality of regulators connected to each of said plurality of spray valves, the apparatus further comprising:

a memory means connected to said regulator means for storing the target value inputs for each of said plurality of spray valves.

46. (new) The apparatus of Claim 45, further comprising:

a data bus connected to said plurality of regulators.